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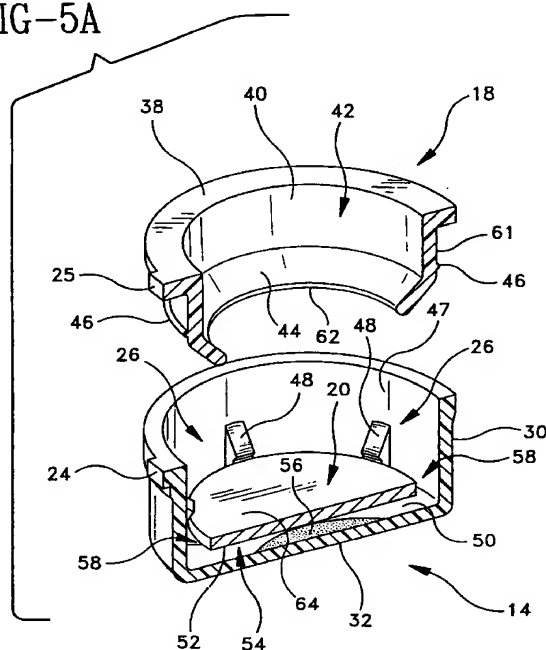
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### (54) DNA microwell device and method

(57) An apparatus for carrying out a homogeneous nucleic acid amplification and nucleic acid assay on a liquid biological sample comprises a sample well (14) and an optical window element (20) which is received in the sample well (14). Opposed, spaced-apart surfaces of the optical window element (20) and sample well (14) define a capillary chamber (54) into which a liquid biological sample is drawn by capillary force. By spreading the liquid biological sample into a thin film within the capillary chamber (54) head space is eliminated, heat transfer to the sample is maximized, and a large optical target is achieved to facilitate the detection step of the assay. The disclosed apparatus is particularly suited for use with homogeneous nucleic acid amplification and fluorescence polarization assays, but can also be used in connection with other types of biological and chemical processes.

FIG-5A



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# EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	WO 95 22406 A (FRITZ NERBE NACHFOLGER JUERGEN ;KLOECKING RENATE (DE); WUTZLER KLA) 24 August 1995 * page 13, paragraph 2 - page 14, paragraph 2; figure 3 * ---	1	G01N21/03 C12Q1/68 B01L3/00
A	US 4 599 315 A (TERASAKI PAUL I ET AL) 8 July 1986 * column 4, line 48 - column 5, line 10; figures 3,4 * ---	1	
A	WO 91 17832 A (DYLLA RAINER) 28 November 1991 * page 23, paragraph 3 - page 25, line 1; figures 3,5-8 * ---	1	
A	EP 0 436 338 A (CANADA NAT RES COUNCIL) 10 July 1991 * column 2, line 40 - column 4, line 22; figures * ---	1,4	
A	US 4 278 887 A (LIPSHUTZ VICTOR G ET AL) 14 July 1981 * column 3, line 3 - line 10 * * column 3, line 46 - line 37; figures * ---	1,4	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B01L G01N
A	WO 93 16194 A (DIAGEN INST MOLEKULARBIO) 19 August 1993 * claims 1,3,33-38; figures * ---	7,8	
A	WO 95 27196 A (SANADI ASHOK R) 12 October 1995 * page 3, paragraph 3 - paragraph 6 * * page 17, last paragraph - page 18, paragraph 1; figure 5A * -----	1,7,8	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>31 August 1998</b>	Examiner <b>Hocquet, A</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... &amp; : member of the same patent family, corresponding document</p>			

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